

REMARKS

Correspondence Address:

Applicants note to the Examiner that the file for the above-referenced application has been transferred to the firm of Coats and Bennett, P.L.L.C., in Cary North Carolina. If a Power of Attorney is not on file with the Patent Office, one will be filed shortly. Further, Applicants invite the Examiner to contact the undersigned to clarify any questions or concerns with respect to the Power of Attorney.

In the drawings:

The Examiner objected to the margins in Figures 2, 7-9, 14, and 16. In response, Applicants will submit official copies of the Figures, with corrected margins, upon the receipt of the Notice of Allowance.

35 U.S.C. §112 Rejections and Claim objections:

Applicants have amended the specification and claims without adding new matter, and without narrowing the scope thereof. However, the amendments are only necessary to correct the various informalities and typographical errors noted by the Examiner, and not to overcome any of the cited art.

35 U.S.C. §103(a) Rejections:

The Examiner rejected claims 47-58 as being unpatentable over Ziv et. al. in view of Hannah et. al. However, Applicants respectfully disagree with the Examiner's rejections, and request reconsideration in light of the following remarks.

Applicants' claimed invention relates to a method of communicating signal bursts between two stations, for example a mobile phone and a satellite relay station, using two different modulation techniques simultaneously. That is, both constant envelope

modulated signal bursts and linearly modulated signal bursts are communicated over a single transmit/receive channel pair (i.e., uplink/downlink). The language of claim 51 reflects this aspect of Applicants' invention, and explicitly requires "transmitting constant envelope modulated signal bursts from the mobile to the satellite relay station over an uplink RF channel [and] receiving linearly modulated signal bursts from the satellite relay station at the mobile phone over a downlink."

Ziv discloses linear modulation. Hannah discloses constant envelope amplitude. However, neither reference teaches or suggests using different modulation techniques on the uplink and downlink of a single channel pair. Thus, there is no suggestion or motivation to employ a first modulation scheme on the uplink and a second, different modulation scheme on the downlink, as required by the claims. The only place that this teaching appears is in Applicants' specification. As such, it appears as if the Examiner has engaged in improper hindsight reconstruction using Applicants' own disclosure as a blueprint.

Therefore, the §103 rejection should be withdrawn as improper as neither Ziv nor Hannah, alone or in combination, teach or suggest using both transmitting constant envelope modulated signal bursts and receiving linearly modulated signal bursts simultaneously on a single channel pair. Accordingly, Applicants respectfully request the allowance of claim 51, and its dependent claims 52-54.

Claims 47 and 55 are apparatus claims for carrying out the method of claim 51, and contain similar language. Thus, for the reasons stated above with respect to claim 51, claims 47 and 55 also define patentable subject matter over the cited art. Accordingly, Applicants respectfully request the allowance of claims 47 and 55, as well as their respective dependent claims 48-50, and 56-58.



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Attached hereto is a marked-up version of the changes made to the claims by the
current amendment.

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Version with markings to show changes made

In the specification:

The paragraph beginning on page 1 after the title of the invention and before the "FIELD OF THE DISCLOSURE" has been amended as follows.

The instant patent application is a continuation of U.S. [Application Serial No. 08/996,153] Patent No. 5,959,984 filed on December 22, 1997, which is a continuation [application of U.S. Serial no. 08/899,389] of U.S. Patent No. 6,084,865 filed on July 23, 1997, which is a continuation [application of U.S. Serial No. 08/501,575] of U.S. Patent No. 5,663,957 filed on July 12, 1995, and is related to issued patents: U.S. Patent No. 5,812,539, U.S. Patent No. 5,729,538, U.S. Patent No. 5,757,789, U.S. Patent No. 5,757,787.

In the claims:

Claims **47-58 have been amended** as follows.

47. (Amended) A communication system that communicates signal bursts between at least one mobile telephone and a satellite relay station comprising:
- a transmitter that transmits constant envelope modulated signal bursts from the mobile to the satellite relay station over an uplink RF channel; and
 - a receiver that receives linearly modulated signal bursts from the satellite relay station at the mobile telephone over a downlink RF channel.

48. (Amended) The communication system of claim 47 [that communicates signal bursts between at least one mobile telephone and a satellite relay station comprising:

a transmitter that transmits constant envelop modulated signal bursts from the mobile to the satellite relay station over an uplink RF channel; and a receiver that receives linearly modulated signal bursts from the satellite relay station at the mobile telephone over a downlink RF channel,]

wherein said constant envelope modulated signal is a Gaussian Minimum Shift Keyed (GMSK) modulated signal.

49. (Amended) The communication system of claim 47 [that communicates signal bursts between at least one mobile telephone and a satellite relay station comprising:

a transmitter that transmits constant envelop modulated signal bursts from the mobile to the satellite relay station over an uplink RF channel; and a receiver that receives linearly modulated signal bursts from the satellite relay station at the mobile telephone over a downlink RF channel,]

wherein said linearly modulated signal is [a] an Offset Quadrature Phase Shift Keying (OQPSK) signal.

50. (Amended) The communication system of claim 47 [that communicates signal bursts between at least one mobile telephone and a satellite relay station comprising:

a transmitter that transmits constant envelop modulated signal bursts from the mobile to the satellite relay station over an uplink RF channel; and a receiver that receives linearly modulated signal bursts from the satellite relay station at the mobile telephone over a downlink RF channel,]

wherein [the] said constant envelope modulated signal bursts and said linearly modulated signal bursts are TDMA signal bursts.

51. (Amended) A method of communicating signal bursts between at least one mobile telephone and a satellite relay station comprising the steps of:

transmitting constant envelope modulated signal bursts from the mobile to the satellite relay station over an uplink RF channel; and

receiving linearly modulated signal bursts from the satellite relay station at the mobile telephone over a downlink RF channel.

52. (Amended) The method of claim [50] 51 [communicating signal bursts between at least one mobile telephone and a satellite relay station comprising the steps of:

transmitting constant envelop modulated signal bursts from the mobile to the satellite relay station over an uplink RF channel; and

receiving linearly modulated signal bursts from the satellite relay station at the mobile telephone over a downlink RF channel,] wherein said constant envelope modulated signal is a Gaussian Minimum Shift Keyed (GMSK) modulated signal.

53. (Amended) The method of claim [50] 51 [communicating signal bursts between at least one mobile telephone and a satellite relay station comprising the steps of:

transmitting constant envelop modulated signal bursts from the mobile to the satellite relay station over an uplink RF channel; and

receiving linearly modulated signal bursts from the satellite relay station at the mobile telephone over a downlink RF channel,] wherein said linearly modulated signal is [a] an Offset Quadrature Phase Shift Keying (OQPSK) signal.

54. (Amended) The method of claim [50] 51 [communicating signal bursts between at least one mobile telephone and a satellite relay station comprising the steps of:

transmitting constant envelop modulated signal bursts from the mobile to the satellite relay station over an uplink RF channel; and
receiving linearly modulated signal bursts from the satellite relay station at the mobile telephone over a downlink RF channel,] wherein [the] said constant envelope modulated signal bursts and said linearly modulated signal bursts are TDMA signal bursts.

55. (Amended) In a communication system that communicates signal bursts between at least one mobile telephone[s] and a satellite relay station over uplink and downlink radio frequency (RF) channels, [a] said mobile telephone comprising:

a transmitter for transmitting a constant envelope modulated signal to the satellite relay station over an uplink RF channel; and
a receiver for receiving a linearly modulated signal from the satellite relay station over a downlink RF channel.

56. (Amended) The mobile telephone of claim 55 [that communicate signal bursts between mobile telephones and a satellite relay station over uplink and downlink radio frequency (RF) channels, a mobile telephone comprising:

a transmitter for transmitting a constant envelop modulated signal to the satellite relay station over an uplink RF channel; and
a receiver for receiving a linearly modulated signal from the satellite relay station over a downlink RF channel,] wherein said constant envelope modulated signal is a Gaussian Minimum Shift Keyed (GMSK) modulated signal.

57. (Amended) The mobile telephone of claim 55 [that communicate signal bursts between mobile telephones and a satellite relay station over uplink and downlink radio frequency (RF) channels, a mobile telephone comprising:

- a transmitter for transmitting a constant envelop modulated signal to the satellite relay station over an uplink RF channel; and
- a receiver for receiving a linearly modulated signal from the satellite relay station over a downlink RF channel,] wherein said linearly modulated signal is [a] an Offset Quadrature Phase Shift Keying (OQPSK) signal.

58. (Amended) The mobile telephone of claim 55 [that communicate signal bursts between mobile telephones and a satellite relay station over uplink and downlink radio frequency (RF) channels, a mobile telephone comprising:

- a transmitter for transmitting a constant envelop modulated signal to the satellite relay station over an uplink RF channel; and
- a receiver for receiving a linearly modulated signal from the satellite relay station over a downlink RF channel,] wherein [the] said constant envelope modulated signal bursts and said linearly modulated signal bursts are TDMA signal bursts.